IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Abdelgader Legnain et al.	§	Art Unit:	2618
Serial No.:	10/698,395	§		
		§	Examiner:	Raymond S. Dean
Filed:	November 3, 2003	§		
For:	Antenna Systems with Common Overhead for CDMA Base Stations	§	Atty. Dkt. No.:	NRT.0206P1US (15658ROUS02U)

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Dear Sir:

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a Notice of Appeal.

It is respectfully submitted that the Examiner has committed clear legal and factual errors in rejecting claim 1 over Rotstein and Wong.

To make a determination under 35 U.S.C. § 103, several basic factual inquiries must be performed, including determining the scope and content of the prior art, and ascertaining the differences between the prior art and the claims at issue. *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 U.S.P.Q. 459 (1965). Moreover, as the U.S. Supreme Court held, it is important to identify a reason that would have prompted a person of ordinary skill in the art to combine reference teachings in the manner that the claimed invention does. *KSR International Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1741, 82 U.S.P.Q.2d 1385 (2007).

Here, a comparison of the claimed subject matter and the teachings of Rotstein and Wong would clearly indicate that the claimed subject matter is significantly different from the teachings of Rotstein and Wong, and that a person of ordinary skill in the art would not have been

prompted to combine the teachings of Rotstein and Wong. The Examiner conceded that Rotstein fails to disclose the following clause of claim 1: "for each antenna a respective signal generator generating a respective signal comprising a common overhead component common to all the signals, using a spreading code common to all signal generates." 10/3/2008 Office Action at 4. Instead, the Examiner relied upon Wong as purportedly disclosing the claim feature that is missing from Rotstein. *Id.*

As will be explained further below, a person of ordinary skill in the art would have been led by both Rotstein and Wong away from the claimed subject matter. In the Response to Arguments section of the 10/3/2008 Office Action, the Examiner stated that Rotstein and Wong "are both related to a wireless multibeam system that uses pilot signals." *Id.* at 2. The Examiner also stated that "Wong is cited for it's [*sic*] teaching of the common overhead component feature, which aids each mobile terminal in determining it's [*sic*] highest data rate, which is the motivation for modifying Rotstein with Wong." *Id.*

The fact that Rotstein and Wong are both related to a wireless multibeam system in and of itself does not form the proper basis for combining the subject matter of Rotstein and Wong, particularly in view of the fact that Rotstein and Wong teach subject matter that would have led a person of ordinary skill in the art away from the claimed subject matter.

Wong is directed to transmitting directional beams to different mobile stations within one sector, such as mobile stations M1, M2, M3, M4 in sector SS1 of cell 10 in Fig. 3 of Wong. Wong notes that a common channel is communicated within the sector SS1. Wong, 7:40-43. However, Wong notes that if directional beams overlap, such as directional beams to be sent to mobile stations M1 and M4 in Fig. 3, then such directional beams **cannot** be sent simultaneously, but rather, must be sent in different time slices (in other words, at completely different times). Wong, 7:48-67.

Thus, Wong teaches that in the context of multiple directional beams within a single sector, that overlapping beams are not allowed to be transmitted simultaneously, but in fact, must be transmitted at different times.

Thus, in the context where a common overhead component (such as the common pilot of Wong) is sent in signals by antennas that define a respective plurality of fixed beams within a sector, Wong teaches that overlapping beams must be transmitted in different time slices, which is completely different from using the spreading code with a mutual micro-timing offset recited

in claim 1, and which contradicts the recitation in claim 1 that the signals are transmitted substantially simultaneously. Thus, a person of ordinary skill in the art looking to the teachings of Wong would actually have been led to a completely different solution than the claimed invention. Namely, such a person of ordinary skill in the art would have been led by Wong to communicate overlapping beams in completely different time slices, rather than using a spreading code with a mutual micro-timing offset such that the signals can be transmitted substantially simultaneously, as recited in claim 1.

The Response to Arguments section of the 10/3/2008 Office Action argued that "Wong teaches wherein signals are transmitted substantially simultaneously during a time slice of a service interval (See Col. 7 lines 53-36)." 10/3/2008 Office Action at 2. This passage of column 7 of Wong notes that for **non-overlapping beams**, those beams can be transmitted simultaneously. However, right above the column 7 passage cited by the Examiner, Wong specifically teaches that "it will be seen that beams for serving mobiles M1 and M4 spatially overlap and **cannot be served simultaneously** since forward linked signal powers will create mutual interference. Wong, 7:47-51. The solution to this issue taught by Wong is that a separate beam is sent to mobile M4 during one time slice of a service interval (that is different from the beam sent to another mobile).

Claim 1 specifically recites transceiver circuitry connecting the signal generators to the antenna such that a respective one of the signals is transmitted by each antenna, where the signals are transmitted substantially simultaneously. Such feature is clearly not disclosed or hinted at by Rotstein and Wong.

In addition, the solution proposed by Wong is completely un-related to the issue address by Rotstein, which refers to use of different PN offsets in different sectors to avoid pilot channel pollution of distinct pilot channels in the different sectors. In Rotstein, different PN offsets are used to define different adjacent sectors within a cell. In Fig. 3 of Rotstein, four distinct PN offsets (A, B, C, D) are used, with the same PN offset reused in sectors that are spatially separated by 120°. Rotstein, 2:44-49. According to Rotstein, by assigning different PN offsets to neighboring sectors, interference between **distinct** pilot channels in corresponding **distinct** sectors is reduced, which would result in reduced pilot pollution. Rotstein, 1:26-28; 40-43; 2:60-62. Thus, Rotstein is concerned with reducing the problem of different pilot channels in different corresponding sectors of a cell interfering with each other. Significantly, it is noted that

the teaching in Rotstein of distinct pilot channels in distinct sectors is quite different from what is recited in claim 1, namely that a **common** overhead component is common to all signals generated by respective signal generators that are transmitted by antennas.

The issue addressed by Rotstein is thus completely different from the issue addressed by Wong, and thus, a person of ordinary skill in the art would not have been prompted to combine the teachings of Rotstein and Wong to achieve the claimed subject matter.

Moreover, Rotstein would have led a person of ordinary skill in the art to a solution in which distinct pilot channels in distinct sectors are communicated using different PN offsets to avoid pilot channel pollution, which is inconsistent with providing a common overhead component common to all signals, as recited in claim 1.

In view of the foregoing, it is clear that a person of ordinary skill in the art would have found no reason to combine the teachings of Rotstein and Wong to achieve the claimed subject matter. Therefore, the obviousness rejection of claim 1 over Rotstein and Wong is clearly defective.

Independent claim 26 is similarly non-obvious over Rotstein and Wong.

Dependent claims are allowable for at least the same reasons as corresponding independent claims.

Moreover, in view of the allowability of base claims, it is respectfully submitted that the obviousness rejections of dependent claims over Rotstein, Wong, and other references have also been overcome.

In view of the foregoing, it is respectfully requested that the final rejections of the claims be withdrawn. The Commissioner is authorized to charge any additional fees and/or credit any overpayment to Deposit Account No. 20-1504 (NRT.0206P1US).

The Commissioner is authorized to charge any additional fees and/or credit any overpayment to Deposit Account No. 20-1504 (15658ROUS02U).

Respectfully submitted,

Date: Jan 5, 2009

Dan C. Hu
Registration No. 40,025
TROP, PRUNER & HU, P.C.
1616 South Voss Road, Suite 750
Houston, TX 77057-2631
Telephone: (713) 468-8880
Facsimile: (713) 468-8883